# 20465 - Designing a Data Solution with Microsoft SQL Server

Duration: **3 days**

## Overview:

The focus of this three-day instructor-led course is on planning and implementing enterprise database infrastructure solutions by using SQL Server 2014 and other Microsoft technologies. It describes how to consolidate SQL Server workloads and how to plan and implement high availability and disaster recovery solutions.

## Target Audience:

This course is intended for database professionals who need who plan, implement, and manage database solutions. Primary responsibilities include:

- Planning and implementing database infrastructure.
- Planning and implementing consolidation strategies.
- Planning and implementing high availability solutions.
- Planning and implementing disaster recovery solutions.

## Pre-requisites:

This course requires that you meet the following prerequisites:

- At least 2 years' experience of working with relational databases, including:
- Planning and implementing databases
- Managing databases
- Querying with Transact-SQL
- Some basic knowledge of high availability and disaster recovery

## At Course Completion:

After completing this course, students will be able to:

- Assess an existing enterprise environment.
- Plan and implement Policy-Based Management.
- Describe the considerations for consolidating workloads with SQL Server 2014.
- Describe considerations for including SQL Server 2014 in a private cloud.

## Module 1: Introduction to Enterprise Data Architecture

### Lessons
- Considerations for Enterprise Data
- Assessing an Existing Infrastructure

**Lab : Assessing an Existing Enterprise Data Infrastructure**

## Module 2: Multi-Server Configuration Management

### Lessons
- Policy-Based Management
- Microsoft System Center

**Lab : Planning and Implementing Policy-Based Management**

## Module 3: Monitoring SQL Server 2014 Health

- This module describes Data Collector and the SQL Server Utility Control Point (UCP), two features of SQL Server 2014 that enable you to perform in-depth health monitoring across the enterprise.

### Lessons
- Introduction to Health Monitoring
- Data Collector
- SQL Server Utility

**Lab : Monitoring SQL Server Health**

## Module 4: Consolidating Database Workloads with SQL Server 2014

### Lessons
- Considerations for Database Server Consolidation
- Managing Resources in a Consolidated Database Infrastructure

**Lab : SQL Server Consolidation**

## Module 5: Introduction to Cloud Data Solutions

### Lessons
- Overview of Cloud Computing
- SQL Server in a Private Cloud

**Lab : Preparing a SQL Server Installation in a Virtual Machine Template**

## Module 6: Introduction to High Availability in SQL Server 2014

### Lessons
- High Availability Concepts and Options in SQL Server 2014
- Log Shipping

**Lab : Using Log Shipping**

## Module 7: Clustering with Windows Server and SQL Server 2014

### Lessons
- Introduction to Windows Server Failover Clustering
- SQL Server AlwaysOn Failover Cluster Instances

**Lab : Implementing an AlwaysOn Failover Cluster Instance**

## Module 8: AlwaysOn Availability Groups

### Lessons
- Introduction to AlwaysOn Availability Groups
- Working with AlwaysOn Availability Groups
- Considerations for Using AlwaysOn Availability Groups

**Lab : Implementing and Testing an AlwaysOn Availability Group**

## Module 9: Planning High Availability and Disaster Recovery

### Lessons
- High Availability and Disaster Recovery with SQL Server 2014
- SQL Server High Availability and Disaster Recovery Solutions

**Lab : Planning High Availability and Disaster Recovery**

## Module 10: Replicating Data

### Lessons
- SQL Server Replication
- Planning Replication

**Lab : Planning and Implementing Replication**